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08/838,242	04/16/1997	DOUGLAS M. DILLON	PD-N96055	8644

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EXAMINER

BROWN, RUEBEN M

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

08/838,242

Applicant(s)

DILLON, DOUGLAS M.

Examiner

Brown M. Reuben

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 2-11, 16-25, 28, 29, 33-43 and 46-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 2-11, 16-25, 28, 29, 33-43 and 46-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 2, 39 & 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Freeman, (U.S. Pat # 6,215,484).

Considering claims 2 & 39, the claimed satellite broadcasting system comprising a transmitter for transmitting data signals on a first and second communication channels via a satellite reads on the transmitter 5, shown in Freeman, (Fig. 1; Fig. 2). Freeman teaches that in

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the two-way embodiment, various signals may be switched at the headend, (col. 3, lines 18-25), including a plurality of data streams, (col. 5, lines 62-67 thru col. 6, lines 3-32).

The claimed receiver including a receiving means for receiving the data signals on the first and second communication channels is met by the receiver 7, (Fig. 1; Fig. 2; col. 6, lines 28-32; col. 6, lines 42-55). The claimed tuning means included with a receiver, responsive to a selected communication channel indication for tuning in a particular one of the first and second communication channels identified by the selected communication channel indication reads on the operation of the signal selector 8, which selects particular NTSC channels for playback, (col. 6, lines 52-64).

The claimed feature wherein the transmitter which transmits to the receiver on the particular communication channel based on the selected communication channel indication, such that the receiver includes a means for selecting one of the first and second communication channels and a means for communicating the selected communication channel indication to the transmitter is met by the two-way operation of Freeman, (col. 8, lines 34-67).

Considering claim 41, Freeman teaches that the receiving system 11 includes a microprocessor 108 and interface 130, (Fig. 3; Fig. 4; col. 8, lines 18-34).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4, 33-35 & 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman.

Considering claims 3-4 & 33-35, the claimed feature of selecting channels based upon a certain load level of the channel reads on whether a channel has reached a certain bandwidth capacity. Official Notice is taken that detecting available bandwidth capacity on a communication channel was extremely well known in the art. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the well-known technique of detecting available bandwidth on a channel and choosing a communication channel based upon its available bandwidth, for the desirable benefit ensuring the channels begin with as much bandwidth as possible.

Considering claim 40, Official Notice is taken that frequency, bit rate, power level and load level were notoriously well known communication channels parameters used in transmitting data over a network. It would have been obvious for one of ordinary skill in the art at the time

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the invention was made, to modify Freeman with the well-known techniques of utilizing channel frequency, bit rate, power level and load level, at least for the desirable improvement of more efficiently receiving readable data.

5. Claims 6, 16 & 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, in view of Ahl, (U.S. pat # 5,666,653).

Considering claims 6, 16 & 22 the claimed elements of a satellite broadcasting system, which corresponds with subject matter mentioned above in the rejection of claim 2, are likewise rejected. As for the additional feature of the first and second communication channels operating at different bit rates, Freeman does not discuss such a scenario. Nevertheless, at the time the invention was made, it was known in the art to utilize multiple bit rates between satellite transmitter and its receiver. In particular, Ahl discusses several algorithms for transmitting data. Notably, it is disclosed that in order to modular dynamic data rates may be utilized, see col. 29, lines 9-16.

It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the teaching of Ahl transmitting data using varying data bit rates, at least for the well known advantage of accommodating different kinds of data, since some data, such as control data, require less bandwidth than other data such as video data. The Ahl reference is compatible with Freeman, since it is stated that its applicability includes mobile phone technology, as well as satellite transmission, (col. 2, lines 47-54).

Official Notice is taken that SNR (signal to noise ratio) detection was very well known in the art at the time the invention was made. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the known technique of detecting SNR ratio on a channel, and relaying such information to the headend, for the known improvement of insuring the quality of data being received over various communication channels.

Considering claim 23, if one bit rate is different from the other bit rate, the at least one of the instant bit rates will be greater than the other one.

6. Claims 19-21 & 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, in view of Reudink, (U.S. Pat # 4,355,411).

Considering claims 19 & 24, the claimed elements of a satellite broadcasting system, which corresponds with subject matter mentioned above in the rejection of claim 2, are likewise rejected. Reudink teaches that digital data may be transmitted with different power levels. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the teaching of Reudink transmitting data using varying power rates, at least for the well known advantage of accommodating different kinds of data, since some data, such as control data, require less power than other data such as video data.

Considering claim 20, see Reudink (col. 8, lines 58-47 & col. 10, lines 46-67).

Considering claim 21, the claimed feature of selecting channels based upon a certain load level of the channel reads on whether a channel has reached its bandwidth capacity. Official Notice is taken that detecting available bandwidth capacity on a communication channel was extremely well known in the art. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the well-known technique of detecting available bandwidth on a channel and choosing a communication channel based upon its available bandwidth, for the desirable benefit ensuring the channels begin with as much bandwidth as possible.

Considering claim 25, if one power rate is different from the other power rate, the at least one of the instant power rates will necessarily be greater than the other one.

7. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, in view of Green, (U.S. Pat # 6,334,045).

Considering claim 28, the claimed elements of a satellite broadcasting system, which corresponds with subject matter mentioned above in the rejection of claim 2, are likewise rejected. Claim 28 includes the additional feature of channel polarization, which is not discussed by Freeman. However, Green teaches that at the time the invention was made it was well known



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to use channel polarization, at least in order to transmit data over two channels simultaneously, (Abstract; col. 4, lines 35-67).

It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the well-known technique of channel polarization, at least for the desirable improvement of transmitting two channels simultaneously, as taught by Green.

Considering claim 29, Green discloses left hand and right hand polarization, (col. 4, lines 32-45).

8. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman, in view of Ahl.

As for the additional feature of the first and second communication channels operating at different bit rates, Freeman does not discuss such a scenario. Nevertheless, at the time the invention was made, it was known in the art to utilize multiple bit rates between satellite transmitter and its receiver. In particular, Ahl discusses several algorithms for transmitting data. Notably, it is disclosed that in order to modular dynamic data rates may be utilized, see col. 29, lines 9-16.

It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the teaching of Ahl transmitting data using varying data bit

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rates, at least for the well known advantage of accommodating different kinds of data, since some data, such as control data, require less bandwidth than other data such as video data. The Ahl reference is compatible with Freeman, since it is stated that its applicability includes mobile phone technology, as well as satellite transmission, (col. 2, lines 47-54).

Considering claims 37-38, if one load level is different from the other load level, then at least one of the instant load levels will necessarily be greater than the other one.

9. Claims 7-11, 17-18, 42-43 & 46-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman & Ahl as applied to claims 6 & 16 above, and further in view of Reudink.

Considering claims 7 & 17-18, Reudink teaches that when an error rate is detected on a particular channel, it is desirable switch the channel to one that has at least a lower rate of errors, (col. 2, lines 30-36; col. 8, lines 61-65 & col. 10, lines 45-65). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify the combination of Freeman & Ahl, to switch to a channel with less interference or noise, for the desirable benefit of insuring the integrity of the data received over a particular channel, as taught by Reudink.

Considering claim 8, it would have been obvious to switch channels based on a combination of the available bandwidth of a particular channel, and its signal to noise ratio.

Considering claims 9-11, the examiner uses the same logic to reject the instant claims as set forth above in the rejection of claims 7-9. The instant claims 9-11 track the subject matter recited in the claims 7-9, except that the instant claims recite the use of power level of communication channel as a determining factor, instead of bit rate. However, Reudink also detects and utilizes the power level of a channel, and uses it to determine when to switch channels, (col. 3, lines 52-65 & col. 4, lines 7-25).

Considering claim 42, the claimed elements of a satellite broadcasting system, which corresponds with subject matter mentioned above in the rejection of claim 16, are likewise rejected. Reudink teaches that digital data may be transmitted with different power levels, (col. 3, lines 61-64). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Freeman with the teaching of Reudink transmitting data using varying power rates, at least for the well known advantage of accommodating different kinds of data, since some data, such as control data, require less power than other data such as video data. As for the claimed feature of transmitting based upon, at least the power level, see Reudink (col. 3, lines 55-67; col. 10, lines 61-67).

Considering claim 43, & 46-77, the instant claims recite features, which substantially correspond with subject matter already rejected above, and are likewise analyzed.

*Response to Arguments*

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Examiner notes that at the time the invention was made, the technique of detecting or measuring parameters of communication channel such as signal strength, bit error rate (BER), available bandwidth and more generally signal quality was very well known in the art of wireless communication theory.

Moreover, it was also very well known in the art to switch or change the transmission/reception channel or frequency by either the transmitter or receiver, in order to receive data over the channel with the highest possible quality. These techniques were well known in the mobile, i.e. cellular phone technology, as well as satellite technology. Indeed, the technique of frequency hopping was a well known standard that solves the often identified problem of BER above a certain threshold or signal strength below a certain threshold on a channel, by 'hopping' to the next available channel or frequency.

*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Morrison Teaches a receiver switching to a different frequency channel if the signal quality of the current channel goes below a certain threshold, (col. 5, lines 30-48).

B) Gillis Generic teaching of frequency hopping in a wireless telephone system, also discusses the very well known received signal strength indicator technique RSSI (col. 3, lines 1-32; col. 5, lines 20-30).

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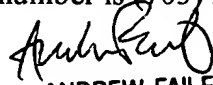
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Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Brown M. Reuben whose telephone number is (703) 305-2399.  
The examiner can normally be reached on M-F (8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Andrew I. Faile can be reached on (703) 305-4380. The fax phone numbers for the  
organization where this application or proceeding is assigned is (703) 872-9314 for regular  
communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the receptionist whose telephone number is (703) 305-4700.

  
ANDREW FAILE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600